

INFORMATION FOR TECHNICAL REVIEW – DEGREASERS (PARTS CLEANERS)

Guidance for Permit Applicants

The following information will be used for the technical review of a Permit to Install application for a **degreaser**. This information is in addition to the general requirements outlined in the AQD document “Information for an Administratively Complete Permit to Install Application,” Part 2 - Additional Supporting Information, Items A through F. All the information may not be needed for each application. Also, this document may not be all inclusive. Additional information beyond that identified may be necessary to complete the technical review of any individual application. In the event a determination is made that new additional information is needed for a technical review, this document will be updated.

All referenced guidance documents are available on the Air Quality Division (AQD) website at [AQD Permits to Install / New Source Review](#) or you may contact the Permit Section at 517-284-6795.

A. Process Description

Describe the following:

1. Make, model, and dimensions of the degreaser.
2. Type of unit (cold, heated, conveyorized, manual, automatic, continuous, batch).
3. Operating temperature of the bath.
4. **Each** solvent or cleaner to be used, including the following information:
 - a) The density of the solvent in pounds per gallon
 - b) A listing of each component¹ in the solvent. In most cases, Safety Data Sheets are sufficient. This information will be used to determine compliance with Rule 225 which requires an analysis of Toxic Air Contaminant (TAC) emissions and their impacts. TAC emissions may result from individual components in the coating or from by-products created during the curing process. Therefore, multiple information sources and a chemical reaction analysis may be necessary to estimate emissions of TACs. For additional and more detailed documentation you may include, or in the future may be asked to include, additional sources of data such as Environmental Data Sheets, Environmental Constants Sheets or formulation data.
 - c) For each specific component provide:
 - i. The specific chemical name, such as xylene, methanol or lead chromate, and the respective Chemical Abstract Service (CAS) number. If after a rigorous effort has been made, the component does not appear to have a CAS number, identify the component by a generic or common name (i.e., aromatic hydrocarbon, alcohol, glycol ether, chromium pigment) and provide all available information on the chemical family, properties, characteristics, composition, etc. Lack of adequate chemical identification may delay the analysis of the TAC emissions.
 - ii. The percent of the component in the solvent by weight.
5. The normal and maximum amounts of solvent to be used in one hour and one year.
6. Any covers (powered or manual), devices for draining cleaned parts, the refrigerated freeboard device (if solvent is heated), conveyor (if so equipped), condenser, spray equipment, vapor level control device, the freeboard height, and air/vapor interface area.
7. Provide written operational procedures to be used, if available.

¹ “Component” includes organic solvents, water, pigments, resins, catalysts, curing agents, accelerators, and other materials.

B. Regulatory Discussion

The following state air pollution control regulations may be applicable. Please review these regulations carefully to determine if they apply to your process and summarize the results in the application. The Air Pollution Control Rules may be viewed from the [AQD website](#). Click on 'State Air Laws and Rules.'

1. State of Michigan, Department of Environment, Great Lakes, and Energy, Act 451 of 1994, Natural Resources and Environmental Protection Act, Part 55 Air Pollution Control and the following promulgated rules:
 - a) Rules 215 and 216 apply to an existing facility which has a current Renewable Operating Permit (ROP). A Permit to Install issued for the installation of new equipment or modifications to existing equipment is incorporated into an ROP pursuant to Rules 215 and 216.
 - b) Rules 1901 - 1908 applies to a major source and/or a major modification at a source which is located in a nonattainment area. A nonattainment area is one where the National Ambient Air Quality Standards (NAAQS) are not being met. These rules require compliance with the lowest achievable emission rate (LAER) and an emission reduction (offset) for each nonattainment air contaminant emitted in significant quantities as defined by Rule 119(e). However, a source may choose to "net out" of the requirements of these rules. For additional detailed information regarding "netting," refer to Chapter 5 of the document entitled "PSD Workbook: A Practical Guide to Michigan's Prevention of Significant Deterioration Regulations," May 2014. This guide is referred to as the AQD's PSD Workbook and can be found on the [Permits to Install \(PTI\) / New Source Review \(NSR\)](#) webpage. Click on 'Application Form Instructions & Guidance Documents.' Although the guidance document is regarding Michigan's PSD regulations, the netting analysis performed for nonattainment NSR is the same as that performed for PSD.
 - c) Rules 1801 – 1823 apply to a major source and/or a major modification at a source which is located in an attainment area. An attainment area is one where the NAAQS are being met. These rules require compliance with Best Available Control Technology (BACT) and a demonstration that the proposed emissions will not contribute to the deterioration of air quality and will not violate any NAAQS or PSD increment. Refer to the [AQD's PSD Workbook](#) for additional detailed information. However, a source may choose to "net out" of the requirements of the PSD rules. For additional detailed information regarding "netting," refer to Chapter 5 of the [AQD's PSD Workbook](#) for additional detailed information.
 - d) If the process or equipment was installed or modified after April 17, 1992, Rules 224 – 230 apply. Rule 224 requires the application of Best Available Control Technology for toxics (T-BACT) for all non-VOC toxic air contaminants (TACs). T-BACT does not apply to emissions of volatile organic compounds (VOCs). Rule 225 limits the emission impacts of TACs and requires a demonstration that the proposed emission of each TAC complies with a health-based screening level. Compliance can be demonstrated using any of three methods described in Rule 227(1) including the use of computerized dispersion modeling. Refer to "Guidelines for Conducting a Rule 224 T-BACT Analysis," "TACs-Demonstrating Compliance with Rule 225," and "Dispersion Modeling Guidance" for additional detailed information.
 - e) If the process or equipment was installed or modified after August 1, 1979, Rule 702 applies. This rule requires Best Available Control Technology (BACT) for new sources of VOCs. Refer to "Instructions for Conducting a BACT Analysis" for additional detailed information. If the process or equipment was installed or modified before August 1, 1979, Part 6 rules are applicable.
 - f) Rule 901 prohibits emissions of an air contaminant in quantities that cause either a) injurious effects to human health or safety, animal life, plant life of significant economic value, or property; or b) unreasonable interference with the comfortable enjoyment of life and property.
2. National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP), 40 CFR Part 63, Subpart T, Standards for Halogenated Solvent Cleaning. If the process is subject to this regulation, describe the air pollution control combination or alternate standard that is proposed to meet the NESHAP requirements. If the alternate emissions standard or idling mode emission limits are proposed, supporting information demonstrating the ability to comply with the appropriate limit must be included.

C. Control Technology Analysis

1. Rule 702 BACT applies to all sources of VOCs proposed to be installed within the State of Michigan. A Rule 702 BACT analysis is very similar to a PSD top-down BACT analysis. For those sources completing a PSD top-down BACT analysis for VOCs, a Rule 702 BACT analysis is not required. Michigan’s air pollution control rules also define BACT as an emission limit. Rule 702 BACT should be applied on a flexible grouping of equipment – subdivisions of emission units and/or groupings of emission units – if it is logical to do so. Logical means that the principles on which the groupings (or subdivisions) are made are consistent with federal guidance and sound engineering practices. Refer to “Instructions for Conducting a BACT Analysis” for additional detailed information.
2. Best Available Control Technology for Toxics (T-BACT) means the maximum degree of emission reduction which the Department determines is reasonably achievable for each process that emits toxic air contaminants (TACs) considering energy, environmental and economic impacts, and other costs. T-BACT does not apply to VOCs. The analysis must be specific to the process and the TACs subject to a T-BACT review. T-BACT limits can be expressed as an emission limit, control equipment requirements, and/or work practice standards. Refer to “Guidelines for Conducting a Rule 224 T-BACT Analysis” for additional detailed information.
3. Lowest achievable emission rate (LAER) applies to a major source and/or a major modification at a source located in a nonattainment area. Please see the [Attainment Status Map](#) on the [AQD website](#) for the current nonattainment status in Michigan. LAER is defined as the lowest emission limitation contained in any State Implementation Plan (SIP) or the lowest emission limitation achieved in practice. Such an emission limit is presumed to be LAER for that source class and category. If an applicant proposes to meet this presumptive LAER, no site-specific control technology determination will be necessary. When an applicant believes the presumptive LAER limit is not achievable, a site-specific determination is required. This determination should include consideration of raw material changes, process changes, and add-on control equipment. The cost of these changes is not considered. Raw material and process changes should be evaluated through technology transfer (i.e., the likelihood that such a change will transfer from one industry to another), based on the manufacture of similar products or use of similar raw materials or fuels. Add-on controls should be evaluated based on the physical and chemical characteristics of the pollutant-bearing exhaust stream.

This publication is intended for guidance only and may be impacted by changes in legislation, rules, policies, and procedures adopted after the date of publication. Although this publication makes every effort to teach users how to meet applicable compliance obligations, use of this publication does not constitute the rendering of legal advice.

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